

Remarks

In the first Office Action herein, which was dated December 19, 2002, the Examiner rejected claims 1-4, inclusive, and 7-15, inclusive, under 35 USC §102 on the basis of U.S. Patent No. 5,289,665 to Higgins. Additionally the Examiner indicated the allowability of claims 5 and 6 were such claims to be re-presented in independent claim form.

Applicant has carefully reviewed the Examiner's action and comments, the cited and applied single prior art reference, and the contents of the present patent application, and by the present amendment proposes certain revisions in several of the claims which are believed now to place all claims in the application in conditions for immediate allowance.

With regard to claims 5 and 6 which were indicated to be allowable, these two claims have been canceled herein without prejudice in favor of the new claims 16 and 17 which effectively re-present claims 5 and 6, respectively in independent claim form.

With respect to the disallowed claims, applicant now initially points out herein certain features in the invention which clearly distinguish it, as now expressed in these claims, from the single, cited Higgins reference. Very specifically, applicant's invention focuses attention on a nodal interconnection which is provided between a beam and a column in a building frame structure, which interconnection employs unique inner and outer collar structures that deliver, as compressive loads applied to the outside faces of a column, moment loads delivered thereto through a connected beam. Significantly, included in accordance with the invention is an outer collar structure which is anchored at the end of a beam, and which, in place, functions as a unit with that beam to deliver from that beam moment loads, with delivery of such load taking place entirely around the outside surface of a column at what are referred to herein as plural, angularly

distributed locations. This outer collar structure effectively interacts with inner collar structure in a kind of floating-connection fashion, as is clearly described in the specification, and as is clearly illustrated in the drawings, whereby each beam-delivered load produces inwardly-directed compressive forces entirely around the outside of a column, rather than simply to a single face in a column.

Additionally, inner and outer collar structures interact initially through gravity seating which causes a pair of confronting, sloped bearing surfaces between the inner and outer collar structures to engage with one another in a manner that, with lowering of a beam into place, effectively draws the associated spaced columns into appropriate lateral relationship with respect to one another.

Nothing like these two structural features exists or is suggested in the cited reference. In the Higgins reference, there is no collar structure which is like applicant's claimed collar structure. For example, there is no outer collar structure which is anchored to function as a unit with each connected beam end to deliver beam-carried moment loads simultaneously to angularly distributed locations which are distributed around the outside of, and thus around the long axis of, a column. In the Higgins structure, what is referred to therein as being a beam is connected to an end bracket which does not form part of an integrated column-surrounding collar that would cause a beam-carried load to be delivered simultaneously completely around the outside of a column."

No matter how one chooses fairly to characterize the specific structural arrangement which is shown in the Higgins patent, there is clearly no collar structure which operates as a unit with a beam end to deliver loads entirely around a column in this fashion.

With regard to structure which is provided in accordance with the invention to cause

lowering of a beam into place to draw together, into proper vertical alignment and lateral spacing, adjacent columns, through the interaction of sloped bearing surfaces with respect to which vertical relative motion causes the kind of drawing together which is clearly expressed and described, and set forth in certain claims, in the instant application. As is now clearly pointed out in certain amended claims, the operatively associated bearing surfaces that enable this kind of action take the form of inwardly and outwardly facing, slightly sloped (off vertical) confronting surfaces which co-act to perform the discussed drawing-in action.

By way of sharp contrast, in order for a beam according to the Higgins structure to be lowered properly into position between a pair of adjacent columns, these two columns must be separated enough (*i.e.*, angulated relatively away from one another) to allow the interconnection structure illustrated by Higgins to be lowered sufficiently to effect a connection. No lowering action can cause appropriate drawing together of a pair of adjacent columns. From another point of view, were a pair of adjacent columns in a Higgins structure appropriately laterally spaced and vertically disposed, they would be too close together to permit the insertion of a beam carrying a connected end structure in the form illustrated in Higgins reference. No structure-to-structure interaction takes place, or can take place, during beam and column interconnection, which causes column alignment and proper lateral spacing to occur because of it.

With specific reference to the individual claims herein, claim 1 has been amended to point out that the recited collar structure includes an integrated, column-axis-circumsurrounding portion which is anchored to a beam end. No such structure exists in the Higgins reference.

Claim 2 has been amended to point out that the recited beam-end-attachable member forms part of an integrated column-axis-circumsurrounding portion of the recited collar structure.

Nothing like this exists in the illustrated and described Higgins structure.

Claim 3 has been amended to point out that the recited collar members include laterally facing (outwardly for one, and inwardly for the other) sloping bearing faces, which are the faces mentioned above that are effective to utilize beam-lowering invocation of gravity to draw two laterally spaced associated columns into proper vertical alignment and relative lateral position. As was mentioned above, such surfaces simply do not exist in the Higgins structure.

Claim 7 has been amended to point out that the multi-axial, three-dimensional, moment-resistant interconnect structure includes inner and outer collar members, each of which is disposed outwardly of a column in a manner circumsurrounding the long axis of a column. As was mentioned also above, this kind of structure is completely absent from Higgins.

Claim 8 has been amended further to describe the confronting bearing surfaces which function during gravity lowering of a beam to cause associated spaced columns to draw together into proper spacing and vertical alignment.

Claims 9 and 11 have been amended to correct typographical errors. Claim 10 remains as filed. Each of these claims distinguishes from the Higgins reference without, in applicant's view, any need further to define certain components.

For example, and referring to claim 9, nothing in Higgins discloses a preparation methodology which includes preparing an elongate column, at various locations along its length, with plural compression-reception bearing surfaces that are distributed at plural, different locations that are spaced angularly about the column's long axis, in conjunction with the further practice of a step involving the coupling of an elongate beam in such a manner that a compression delivery of loads can take place simultaneously between separate and different ones of the prepared bearing

surfaces. Higgins does not perform in this manner because there is no structure provided which causes a beam to deliver a load simultaneously around the outer surfaces in a column.

Claim 10 is clearly distinguishable at least for the reason that it recites an inner collar structure and an outer collar structure with respect to which load transfer takes place from a beam simultaneously entirely around the outside of a column.

Claim 11 recites, among other things, first and second bearing-surface structures which function in relation to a column-circumsurrounding outer collar structure that acts as a unit with the end of a beam.

Claim 12 has been amended to introduce recognition of the laterally inwardly and outwardly facing confronting sloping bearing surfaces which function to establish appropriate relative positioning between a pair of adjacent columns during assembly with a beam.

Claim 13 has been amended to point out that loads are delivered to the outside of a column through the recited interconnect structure. This does not exist in the Higgins structure.

Finally, claim 14 has been amended to amplify reference therein to the delivery of loads between a beam and a column in a manner whereby load delivery takes place through collar structure simultaneously to the outside of a column at plural locations which are distributed about the column's long axis. As has been discussed above, this claim now clearly recites structure differentiating it from what is shown or suggested in the Higgins reference.

A revised page 11 in the specification is presented herein in order to correct two modest typographical errors that has been found with reference to one of the structural identifications. This page is also revised to introduce antecedent basis for certain new claim terminology. No new matter is introduced.

Additionally, accompanying this amendment is new plate of drawings which contains Figs. 3 and 4, wherein the lead-line which extends in Fig. 3 from reference numeral and character 58c is terminated correctly.

For all of the reasons thus presented herein, applicant asserts that all claims now present in this application, on the basis of entry of this amendment, are clearly distinguishable from the single cited reference, and are therefore patentable. Accordingly, favorable reconsideration of this application, and early allowance of all claims herein, are respectfully solicited. Additionally applicant's attorney of record, Jon M. Dickinson, invites the Examiner to initiate a telephone conference with him in the event that the Examiner does not conclude that, with entry of this amendment, all claims presented in this case are allowable. That call, if such is placed, should be placed to telephone number 503-504-2271.

Request for Extension of Time and Submission of Additional Independent Claims

Applicants hereby Request and Extension of Time in which to Respond to the outstanding Office action in the Fourth month following that Office action. Accompanying this Amendment, is a check in the amount of \$809.00, which pays the fee of \$42 for each of two newly submitted independent claims (\$84.00), and the fee for filing a Response in the fourth month following an Office action, which fee is \$725.00.

Appointment of Associate Attorney and Change of Correspondence Address

Also accompanying this Amendment is an Appointment of Associate Attorney from attorney-of-Record Jon M. Dickinson, Esq., in favor of the undersigned, and a change in Correspondence Address.



The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any over-payment to Account No. 22-0258.

Customer Number

Respectfully Submitted,



23855

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Date of Deposit - April 19, 2003

I hereby certify that the attached Amendment, Request for Extension of Time, Appointment of Associate Attorney and Change of Correspondence Address, and a check in the amount of \$809.00 are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. 1.10 on the date indicated above and is addressed to:

MS Fee Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

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GROUP 3600

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